Mission
MealFlour is a social enterprise that works with communities affected by malnutrition so that they can create their own environmentally sustainable source of protein. MealFlour provides trainings on how to build and maintain tabletop mealworm farms as well as how to turn mealworms into a protein rich powder that can be easily incorporated into other recipes.
Timeline 2016

January
February

March
• Hult Regional Finals in Boston

April
• CGIU; MealFlour wins $5,000 from the Resolution Project
• CUGH; MealFlour wins $10,000 from Health Roots at the Bay Area Global Health Innovation Challenge

May
• UChicago CNVC Final Round; MealFlour wins $5,000 in seed money

June

July
• Pre-pilot in Candelaria with Primeros Pasos and La Mandarina
• Mealworm test farm built in US

August

September

October

November
• Start of PEILE ‘train-the-trainer’ crash courses
• Start of Candelaria 6 month Gusarina program
• Start of weekend program in Candelaria

December
• Weekly home visits and charlas for participants in Candelaria
• Presentation for the Ministry of Agriculture to 75 women and leaders in Almolonga
• Open house information session at El Infinito for Quetzaltenango proper residents
Projects
Candelaria
Pre-program, Guatemala July 2016
In July 2016, MealFlour traveled to Quetzaltenango, Guatemala and introduced the Gusarina program to a group of women in Candelaria. The women were selected through their participation in the nutrition program at Primeros Pasos, one of our partner NGOs. First, the 7 women in the program were given a pre-survey where they were asked what is the importance of protein, sources of protein, and what sources of protein they already eat. The women then received a 30-minute lesson on the importance of protein, an introduction to mealworms as a sustainable source of protein, and an introduction to the farming process. At the end of the lesson, the women had the opportunity to try cookies made with mealworm powder. Our partner bakery, La Mandarina, created the cookies and the recipe. At the end of the class, 4 out of 7 woman indicated they were interested in starting a farm and learning more about the program.

In October, the MealFlour team returned to Guatemala to meet with the Candelaria nutrition program and begin the full 8-month program, starting with the 6-week training. Through word of mouth, another resident of Candelaria who is not a part of the Primeros Pasos nutrition program asked to participate, bringing the full group to 5.

The 6-week training program started on November 8th and concluded with a graduation ceremony on December 20th.

Week 1: Introduction to mealworms and farming  
Week 2: Constructing the farms and mealworm distribution  
Week 3: Farm maintenance  
Week 4: Preparing the mealworm powder  
Week 5: Cooking class; making pancakes with mealworm powder  
Week 6: Graduation

The full outline of lessons can be found [HERE](#).
PEILE
Train-the-Trainer 3 Day Crash Course
In November 2016, MealFlour partnered with PEILE, an NGO that runs vocational training programs throughout Guatemala. At PEILE, MealFlour ran a train-the-trainer program for aspiring teachers from different communities in Guatemala.

The 3-day program starts with an overview of the importance of protein, how edible insects and mealworms can be a sustainable source of protein, instructions on the basic mealworm farm design and how to maintain the farm.

Day 2 is an interactive workshop where students bring in up-cycled materials, such as milk jugs and water bottles, to build their own farm in small teams.

Day 3 is a cooking class where students use mealworm protein powder to create healthier versions of snacks and treats. During the 3 crash courses, MealFlour made protein packed cookies, pudding, and pancakes with the students.

Find a full report in English HERE and Spanish HERE.

Out of 43 students reached through the crash courses, 29 signed-up to request the full 6-month MealFlour program in their home communities in 2017.

Ministry of Agriculture in Almolonga
On December 5th, MealFlour was invited by a representative of the Ministry of Agriculture to present our program to a group of 75 women in Almolonga, a town neighboring Xela. The Ministry of Agriculture provides nutrition classes and skills building workshops in Almolonga, and in 2017 they would like MealFlour to be a part of the trainings they provide. The women loved the mealworm cookies and were interested in the idea of farming insects for food. We are continuing to work with the Ministry of Agriculture to set up a training program in Almolonga beginning in 2017.

Co-founders Elizabeth Frank and Gabrielle Wimer present the life-stages of the mealworm during their MealFlour introduction to the community of Almolongo.
Presentation in Xela at El Infinito

El Infinito is an organization in Xela that educates people on protecting the land, food, and culture of Guatemala. On December 11th, we were invited to host an information session on the MealFlour program so that people from around the city could learn more about our work and mealworm farming in general. In 2017, we will help El Infinito set up their own mealworm farm so that they can compost food scraps, and so that we can have another farm from which to collect starter packs to give to communities participating in the MealFlour program.

Crowdfunding, PR, and Social Media

Crowdfunding

In order to expand in 2017, MealFlour launched a crowdfunding campaign on November 22, 2016. The campaign ended on December 31, 2016 and raised $17,794.85 dollars.

Newsletter and Social Media

MealFlour releases a monthly newsletter to update followers on our progress. The MealFlour facebook page launched in April 13th, 2016 and now reaches 333 followers. Our twitter account reaches 116 followers.
Press

“Three girls fighting malnutrition in Guatemala” – Entomofago (December 14 2016)
“MealFlour: How a Worm-Cookie Each Day Keeps the Doctor Away” - RESET (December 7 2016)
“These 3 College Grads Are Fighting World Hunger With Worms” - Spoon University (December 7 2016)
“This is their Story” - Say No to Food Waste (October 12 2016)
“Gabby Wimer Digs Mealworms” - 06880 (August 19 2016)
“The Diet of Worms” - The University of Chicago Magazine (July 15 2016)
“Mealworms win top prize in Bay Area Global Health Innovation Challenge” - Stanford Medicine (April 15 2016)

Expanding in 2017

Candelaria

In 2017 MealFlour will continue to follow up with each participant every week for 6 months. Each home-visit, we answer remaining questions and collect data on the amount of worms produced, the type and quantity of food used to feed the insects, and the state of the farms.

PEILE

In January, MealFlour meets with PEILE to plan how our program will integrate into their curriculum. In collaboration with PEILE, MealFlour plans to bring our 6-month program to up to 10 communities throughout western Guatemala. We also plan to provide more crash courses to men, women, and children who use PEILE’s training services.

Scaling to Other Countries

Peru: MealFlour is in communication with the NGO, CEDNA, which works with children, adolescents and adults from the low-income population of urban and rural areas of Cusco, promoting integral and sustainable development. We hope to work with CEDNA to incorporate our program in 2017.

International Expansion: At the end of 2016, MealFlour also began to collaborate with the NGO, Concern Worldwide, which works in 29 of the world’s poorest countries. Concern expressed interest in testing the MealFlour program as a part of their eight-year Innovations grant funded by the Gates Foundation.
The Team

Co-founders

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Board of Advisors

Monica Ayieko
Monica is an Associate Professor of Consumer Sciences at the Jaramogi Oginga Odinga University of Science and Technology (JOOUST), in the School of Agricultural and Food Sciences. She has a wide background in agricultural households and food production. She developed a keen interest in the use of edible insects for food security, particularly for households along the Lake Victoria region which normally have plenty of edible insects in the wild. Monica has been working with edible insects for more than 15 years in the Western Kenya region. She has published several academic and general documents on insects as food and feed. She is currently working with farmers to promote commercialization of the same; has successfully developed several processed products of edible insects; and is rearing insects as a pilot project for sustainability. Through the effort of Professor Ayieko, JOOUST is a proud recipient of the coveted ACE II World Bank funding to set up an Africa Center of Excellence in Sustainable Use of Insects for Food and Feed. The project will work with regional and international partners to promote insects for food and feed and to help with the management of our environment.

Ted Fischer
Edward (Ted) is the Cornelius Vanderbilt Professor of Anthropology and Director of the Center for Latin American Studies at Vanderbilt University. He is also the founder of Maní+, a social enterprise in Guatemala that develops and produces locally sourced complementary foods to fight malnutrition. Fischer serves as an advisor to the World Health Organization on Wellbeing and the Cultural Contexts of Health. His recent work focuses on well being across cultures. He has conducted long-term fieldwork in Guatemala and Germany. He has authored and edited a number of books, including Cultural Logics and Global Economies (2001), Broccoli and Desire (2006), and most recently, The Good Life: Aspiration, Dignity, and the Anthropology of Wellbeing (2014). See more at www.tedfischer.org.
Michelle Iseminger
Michelle has a 15-year career with the United Nations World Food Programme, with field experiences ranging from Sierra Leone, Afghanistan, Algeria, Georgia, Sudan and South Sudan, Mali, Uganda and Ethiopia. Now based in New York for WFP as a Senior External Partnership Officer focused on the global strategic policy development related to the Sustainable Development Goals and humanitarian action, she fondly remembers when she began her community development work as a beekeeper in Tunisia teaching micro-enterprise skills as an agricultural extension volunteer for the Peace Corps in the 1990’s. She strongly supports how MealFlour project accelerates low-infrastructure, community-based means to get nutrient dense protein options into rural households. Michelle is a Pennsylvania native and attended Franklin and Marshall College for her A.B. and The University of Chicago for her MA in International Relations.

Stephen Marcinuk
Steve is a serial entrepreneur and business consultant with experience working with over a dozen social enterprises across the developing world, but principally those focused on improving lives in impoverished communities in Latin America and Southeast Asia. He is a Magna Cum Laude graduate of the Wharton School of Business at the University of Pennsylvania with dual degrees in Marketing and Entrepreneurship, and has spent most of the last 5 years building a business that brought over 450 students and professionals on social justice missions to the developing world. He currently resides in Medellin, Colombia.

Gavin Yamey
Gavin is the Director of Duke’s Center for Policy Impact in Global Health. He is a Professor of the Practice of Global Health and Public Policy, and the Associate Director for Policy in the Duke Global Health Institute. He trained in clinical medicine at Oxford University and University College London, medical journalism and editing at the BMJ, and public health at the London School of Hygiene and Tropical Medicine. He was Deputy Editor of the Western Journal of Medicine, Assistant Editor at the BMJ, a founding Senior Editor of PLOS Medicine, and the Principal Investigator on a $1.1 million grant from the Bill & Melinda Gates Foundation to support the launch of PLOS Neglected Tropical Diseases. In 2009, he was awarded a Kaiser Family Mini-Media Fellowship in Global Health Reporting to examine the barriers to scaling up low cost, low tech health tools in East Africa. Dr. Yamey was a member of the Lancet Commission on Investing in Health and the Lancet Commission on Global Surgery and has been an External Advisor to the WHO and TDR. Before joining Duke, Dr. Yamey led the Evidence-to-Policy Initiative in the Global Health Group at the University of California, San Francisco.